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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,932	11/16/2000	Ji Eun Lee	P-151	3161

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FLESHNER & KIM, LLP
P.O. BOX 221200
CHANTILLY, VA 20153

EXAMINER	
CARTER, AARON W	
ART UNIT	**PAPER NUMBER**
2625	

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/712,932	LEE ET AL.	
	Examiner	Art Unit	
	Aaron W Carter	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 November 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3,5,6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed on November 16, 2000.

Claim Objections

2. Claims 7 and 8 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits. Examiner will treat the claims as though claim 7 reads, "The method according to any one of claims 1 to 6..."

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,734,744 to Wittenstein et al. ("Wittenstein").

As to claim 1, Wittenstein discloses a method for quantization of a histogram bin value of an image, characterized in that:

The range of the histogram bin value is non-uniformly quantized according to the frequency of occurrence (column 7, lines 19-23, line 57-65, wherein the most populated histogram bins, which corresponds to frequency of occurrence, are chosen as center values for a range of bins whose values are within a certain distance of that center value, wherein the distance will be calculated for each center value values, wherein it is inherent that there will be a variation in distances between center values, thus creating non-uniform quantization of the histogram).

As to claim 2, Wittenstein discloses the method according to claim 1, wherein the range varies according to predetermined thresholds of the r histogram bin value (column 7, lines 19-23, line 57-65, wherein the most populated histogram bins are chosen as center values for a range of bins whose values are within a certain distance metric, which corresponds to predetermined threshold, of that center value, wherein the distance will be calculated for each center value values and wherein it is inherent that there will be a variation in distances between center values, thus creating non-uniform quantization of the histogram).

As to claim 3, Wittenstein discloses the method according to claim 1, wherein the value having a histogram bin value of '0' is mapped into a single quantum, equivalent to a code value (column 8, lines 16-19, wherein '0' corresponds to white).

As to claim 4, Wittenstein discloses the method according to claim 1, wherein the values having a histogram bin value between '0.0' and a very close number of '0.0' is mapped into a single quantum, equivalent to a code value (column 7, lines 57-65).

As to claim 5, Wittenstein discloses the method according to claim 2, wherein the values having a histogram bin value of more than the largest predetermined threshold are mapped into a single quantum, equivalent to a code value (column 7, lines 57-65 or column 8, lines 16-19, wherein the largest threshold corresponds to black).

As to claim 9, Wittenstein discloses the method according to claim 2, wherein the range having a bin value greater than '0' and less than the largest threshold is uniformly quantized into a plurality of sections (column 7, lines 28-30, wherein at first center values maybe uniformly spaced).

As to claim 10, Wittenstein discloses the method according to claim 2, wherein the range having a bin value greater than '0' and less than the largest threshold is non-uniformly quantized (column 7, lines 19-23, line 57-65, wherein the most populated histogram bins are chosen as center values for a range of bins whose values are within a certain distance metric of that center value, wherein the distance will be calculated for each center value values and wherein it is inherent that there will be a variation in distances between center values, thus creating non-uniform quantization of the histogram).

As to claim 11, Wittenstein discloses the method according to claim 10, wherein the sub-ranges divided by the remaining thresholds are uniformly quantized into a plurality of sections

(column 8, lines 16-18, wherein black and white are a plurality of section and they are the remaining thresholds).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 6-8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,734,744 to Wittenstein et al. ("Wittenstein").

As to claim 6, Wittenstein discloses the method according to claim 5, wherein, when the range of the respective bin value of the histogram is normalized as the range of values from 0 to 1 (column 6, lines 49-50) and that there is a largest predetermined threshold (column 7, lines 57-65), but is silent in regards to the limitation stating that the largest predetermined threshold is a value ranging from 0.1 to 1. It would have been an obvious matter of design choice to have the largest predetermined threshold ranging from 0.1 to 1, since the applicant has not disclosed that having this range solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the largest predetermined threshold as disclosed

by Wittenstein in column 7, lines 57-65 since the determination the threshold/distance metric changes from image to image making it non-uniform.

As to claim 7, Wittenstein discloses the method according to any one of claims 1 to 6, wherein the histogram is a color histogram (column 6, lines 2-8).

As to claim 8, Wittenstein disclose the method according to claim 7, wherein the histogram is a color structure histogram (column 6, lines 24-38).

As to claim 12, Wittenstein discloses the method according to claim 10, wherein the range having a bin value of greater than '0' and less than the largest threshold (, but is silent in regards to the limitation stating that the largest threshold is from 0.0001 to 0.0999. It would have been an obvious matter of design choice to have the largest threshold ranging from 0.0001 to 0.0999 since applicant has not disclosed that having this range solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the largest threshold as disclosed by Wittenstein in column 7, lines 57-65 since the determination the threshold/distance metric changes from image to image making it non-uniform.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron W. Carter whose telephone number is 703.306.4060. The examiner can normally be reached by telephone between 8am - 4:30pm (Mon. – Fri.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703.308.5246. The fax phone number for the organization where the application or proceeding is assigned is 703.872.9306 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.306.0377.

Aaron W. Carter
Examiner
Art Unit 2625

awc
November 6, 2003

Jayanti K. Patel
Primary Examiner